International Year of Quantum Science and Technology (IYQ)-2025, at TCG CREST (Kolkata, India)

Prof. Anupam Garg

Northwestern University, USA

Date & Time:

29th April 2025 @ 5:30 PM IST

Venue:

Classroom-4, TCG CREST

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Prof. Anupam Garg is interested in the formalism and applications of coherent state path integrals, especially as they relate to spin angular momentum and molecular magnets. He also maintains a cultural interest in the foundations of quantum mechanics. With Anthony Leggett, he introduced famous Leggett-Garg's inequality.

Title: The Classical Limit of the Spin-s Einstein-Podolsky-Rosen-Bohm Experiment

Abstract

The macro-realistic inequality (discovered by A. J. Leggett and the author) has sharpened the need for understanding the classical limit of quantum mechanics. With this motivation, the strange correlations in the spin-s EPRB experiment are coarse grained via the inclusion of detector error. An error protocol is found which has the remarkable mathematical property that it can be viewed as an imperfection in the process either of detection or of state preparation, and is, furthermore minimal in both viewpoints in the sense that it is no more than is needed to wash out the excess quantum correlations. That such a remarkable dual interpretation should be possible suggests that this type of complementary coarse graining is an intrinsic aspect of how classicality is obtained in the large s limit, but this conclusion remains speculative.

Organized by:

CQuERE (Centre for Quantum Engineering, Research and Education), TCG CREST, Kolkata, INDIA

For more details, please visit the website: http://www.tcgcrest.org/iyq2025

For any queries, feel free to contact us through the email: iyq.2025@tcgcrest.org